

ONS00181
09/802,726IN THE CLAIMS

Please amend the claims as indicated below. All pending claims are written below in revised format.

1. (Currently Amended) A semiconductor component comprising:

a drain region having a trench with first and second sides, a portion of the drain region having a first conductivity type and a first charge density;

a control electrode in the trench;

a channel region of the second conductivity type ~~inadjacent~~ to the drain region and adjacent to the trench;
and

a first region ~~inadjacent to~~ the drain region, having a second conductivity type, and having a second charge density balancing the first charge density.

2. (Previously Amended) The semiconductor component of claim 1, wherein:

the drain region has a first surface and a second surface;

a first portion of the first region is at the first side of the trench and extends along a height of the drain region from the first surface of the drain region toward the second surface of the drain region; and

a second portion of the first region is at the second side of the trench and extends along the height of the drain region from the first surface of the drain region toward the second surface of the drain region.

3. (Original) The semiconductor component of claim 2, wherein the first region is discontinuous.

-3-

ONS00181
09/802,726

4. (Original) The semiconductor component of claim 3, wherein the first portion of the first region is discontinuous.
5. (Original) The semiconductor component of claim 2, wherein the first region is continuous.
6. (Previously Amended) The semiconductor component of claim 5, wherein the first region is continuous from the first surface of the drain region toward the second surface of the drain region.
7. (Previously Amended) The semiconductor component of claim 2, wherein:
the first region is contiguous with the first surface of the drain region; and
the trench is in the second surface of the drain region.
8. (Original) The semiconductor component of claim 2, wherein the channel region is between the first and second portions of the first region.
9. (Previously Amended) The semiconductor component of claim 1, further comprising an electrically insulative layer in the trench between the drain region and the control electrode.
10. (Original) The semiconductor component of claim 1, wherein the control electrode is located only in the trench.

-4-

ONS00181
09/802,726

11. (Previously Amended) The semiconductor component of claim 10, wherein:

the drain region has a first surface and a second surface;

the trench is in the second surface of the drain region; and

the semiconductor component further comprises a second region in the drain region, at the second surface of the drain region, having the first conductivity type, and contiguous with the trench.

12. (Previously Amended) The semiconductor component of claim 1, wherein:

the drain region has a first surface and a second surface;

the trench is in the second surface of the drain region; and

the control electrode overlaps the second surface of the drain region.

13. (Previously Amended) The semiconductor component of claim 12, further comprising a second region in the drain region, at the second surface of the drain region, having the first conductivity type, and adjacent to and non-contiguous with the trench.

14. (Previously Amended) The semiconductor component of claim 1, wherein the trench extends into the drain region deeper than the channel region.

15. (Original) The semiconductor component of claim 1, wherein the channel region is absent underneath the trench.

16. (Original) The semiconductor component of claim 1, wherein the first region is absent underneath the trench.

-5-

ONS00181
09/802,726

17. (Previously Amended) The semiconductor component of claim 1, wherein the portion of the drain region is located under the trench.

18. (Previously Amended) The semiconductor component of claim 1, wherein:

the drain region has a first surface and a second surface;

a first portion of the first region is at the first side of the trench and extends along a height of the drain region from the first surface of the drain region toward the second surface of the drain region;

a second portion of the first region is at the second side of the trench and extends along the height of the drain region from the first surface of the drain region toward the second surface of the drain region; and

the portion of the drain region is located between the first and second portions of the first region.

Add new claims 39-40 as follows.

39. (New) A semiconductor component comprising:

a substrate having a first surface formed with a first trench;

a drain region having a first conductivity type and formed over the substrate to define a second trench; and

a first region having a second conductivity type and formed between the drain region and a sidewall of the first trench for balancing a charge density of the drain region.

-6-

ONS00181
09/802,726

40. (New) A semiconductor component, comprising:
- a substrate formed with a first trench;
 - a semiconductor layer having a first charge density and formed over the substrate to define a second trench; and
 - a region between the semiconductor layer and the first trench and having a second charge density for balancing the first charge density.